

10A INTELLIGENT SPEED CHARGE BATTERY CHARGER

Model No: **SCI10S**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.



IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.

1. SAFETY

Safety Markings/Symbols



Read Instructions Before Use.



Do Not Expose To Rain.



Risk Of Explosion.



Caution: Risk of Electric Shock.



Use in a well ventilated area.



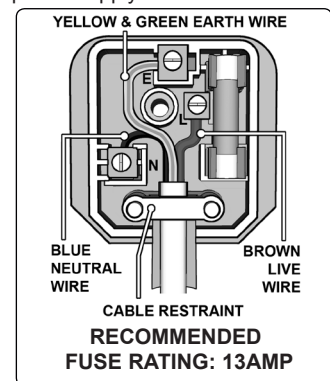
Keep away from sparks and flame - battery could emit explosive gases.


1.1. ELECTRICAL SAFETY

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following: You must check all electrical products, before use, to ensure that they are safe. You must inspect power cables, plugs, sockets and any other connectors for wear or damage. You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices. A Residual Current Circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a Residual Current Device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician. You may obtain a Residual Current Device by contacting your Sealey dealer.

You must also read and understand the following instructions concerning electrical safety.

- 1.1.1. The **Electricity at Work Act 1989** requires all portable electrical appliances, if used on business premises, to be tested by a qualified electrician, using a Portable Appliance Tester (PAT), at least once a year.
- 1.1.2. The **Health & Safety at Work Act 1974** makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of the appliance operators. **If in any doubt about electrical safety, contact a qualified electrician.**
- 1.1.3. Ensure that the insulation on all cables and on the appliance is safe before connecting it to the power supply. See 1.1.1. and 1.1.2. and use a Portable Appliance Tester.
- 1.1.4. Ensure that cables are always protected against short circuit and overload.
- 1.1.5. Regularly inspect power supply cables and plugs for wear or damage and check all connections to ensure that none is loose.
- 1.1.6. **IMPORTANT:** Ensure that the voltage marked on the appliance matches the power supply to be used and that the plug is fitted with the correct fuse - see fuse rating at right.
- 1.1.7. **DO NOT** pull or carry the appliance by the power cable.
- 1.1.8. **DO NOT** pull the plug from the socket by the cable.
- 1.1.9. **DO NOT** use worn or damaged cables, plugs or connectors. Immediately have any faulty item repaired or replaced by a qualified electrician. When an ASTA/BS approved UK 3 pin plug is damaged, cut the cable just above the plug and dispose of the plug safely. Fit a new plug according to the following instructions (UK only).
 - a) Connect the **GREEN/YELLOW** earth wire to the earth terminal 'E'.
 - b) Connect the **BROWN** live wire to the live terminal 'L'.
 - c) Connect the **BLUE** neutral wire to the neutral terminal 'N'.
 - d) After wiring, check that there are no bare wires, that all wires have been correctly connected, that the cable outer insulation extends beyond the cable restraint and that the restraint is tight.



Double insulated products, which are always marked with this symbol , are fitted with live (brown) and neutral (blue) wires only. To rewire, connect the wires as indicated above - **DO NOT** connect either wire to the earth terminal.

- 1.1.10. Products which require more than 13 amps are supplied without a plug. In this case you must contact a qualified electrician to ensure that a suitably rated supply is available. We recommend that you discuss the installation of an industrial round pin plug and socket with your electrician.
- 1.1.11. If an extension reel is used it should be fully unwound before connection. A reel with an RCD fitted is preferred since any appliance plugged into it will be protected. The cable core section is important and should be at least 1.5mm², but to be absolutely sure that the capacity of the reel is suitable for this product and for others which may be used in the other output sockets, we recommend the use of 2.5mm² section cable. If extension reel is to be used outdoors, ensure it is marked for outdoor use.



DANGER! BE AWARE, LEAD-ACID BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS VERY IMPORTANT TO READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY, EACH TIME YOU USE THE CHARGING EQUIPMENT.

Follow these instructions and those published by the battery and vehicle manufacturers, and the maker of any equipment you intend to use in the vicinity of the battery. Remember to review warning marks on all products and on engines.

1.2. PERSONAL PRECAUTIONS

- ✓ Ensure there is another person within hearing range of your voice and close enough to come to your aid, should a problem arise when working near a lead-acid battery.
- ✓ Wear safety eye protection and protective clothing. Avoid touching eyes while working near battery.
- ✓ Have fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- ✓ Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters eye, flush eye immediately with cool, clean running water for at least 15 minutes and seek immediate medical attention.
- ✓ Remove personal metallic items such as rings, bracelets, necklaces and watches. A lead-acid battery can produce a short-circuit current which is high enough to weld a ring or the like to metal, which would cause severe burns.
- ✓ Ensure hands, clothing (especially belts) are clear of fan blades and other moving or hot parts of engine, remove ties and contain long hair.
- x **DO NOT** use whilst under the influence of drugs, alcohol or intoxicating medication.

1.3. GENERAL SAFETY INSTRUCTIONS

- ✓ Familiarise yourself with the application and limitations of the charger as well as the potential hazards. Also refer to the vehicle manufacturer's hand book. **IF IN ANY DOUBT CONSULT A QUALIFIED ELECTRICIAN.**
- ✓ Ensure the charger is in good order and condition before use. If in any doubt do not use the unit, contact your Sealey Dealer.
- ✓ Use the charger in the upright position only and ensure it is placed on a stable surface which will adequately support its weight.
- ✓ Ensure the charger is disconnected from the mains supply before attaching/detaching the power clamps to/from the battery.
- ✓ Keep tools and other items away from the engine and ensure you can see the battery and working parts of engine clearly. Ensure the output of the charger is the same voltage as the battery.
- ✓ If battery has caps to access the battery fluid, remove the caps and check the fluid level before connecting the power clamps. If necessary top-up the battery with distilled water by referring to the battery manufacturer's instructions (apply the personal safety precautions described in part 1.2).
- ✓ If the charger receives a sharp knock or blow the unit must be checked by a qualified service agent before using.
- ✓ If the battery terminals are corroded or dirty clean them before attaching the power clamps.
- ✓ Keep children and unauthorised persons away from the working area.
- ✗ **DO NOT** smoke or allow a spark or flame in the vicinity of battery or engine.
- ✗ **DO NOT** dis-assemble the charger for any reason. The charger must only be checked by qualified service personnel.
- ✗ **DO NOT** try to charge a non-rechargeable battery.
- ✗ **DO NOT** try to start engine when charger is connected to battery.
- ✗ **DO NOT** try to charge battery if battery fluid is frozen.
- ☐ **WARNING!** To prevent the risk of sparking, short circuit and possible explosion **DO NOT** drop metal tools in the battery area, or allow them to touch the battery terminals.
- ✗ **DO NOT** allow power clamps to touch each other or to make contact with any metallic part of the vehicle.
- ✗ **DO NOT** cross connect power leads from charger to battery. Ensure positive (+/RED) is to positive and negative (-/BLACK) is to negative.
- ✗ **DO NOT** pull the cables or clamps from the battery terminals.
- ✗ **DO NOT** use the charger outdoors, or in damp, or wet locations and **DO NOT** operate within the vicinity of flammable liquids or gases.
- ✗ **DO NOT** use charger inside vehicle or inside engine compartment.
- ✓ Ensure there is effective ventilation to prevent a build-up of explosive gases, and do not cover or obstruct charger ventilation louvres.
- ✗ **DO NOT** use the charger for a task for which it is not designed.
- ☐ **WARNING! DO NOT** simultaneously charge batteries of different capacities or discharge levels.
- ☐ **WARNING!** If a fuse blows, ensure it is replaced with an identical fuse type and rating.
- ✓ This charger is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- ✓ When not in use, store the charger carefully in a safe, dry, childproof location.

2. INTRODUCTION

Fully automatic microprocessor controlled battery charger and maintainer featuring patented Speed Charge technology that actively monitors the charge acceptance and constantly modifies the charge output. This model charges the battery up to 3 times faster than conventional battery chargers without damaging the battery. This charger has a heavy-duty sturdy case, no-nonsense controls, bright, clear, easy-to-read LED status lights and wipe clean touch pad controls. Battery pre-sets include conventional, AGM/Gel, leisure and stop/start batteries. The charge rate selector allows the operator to override the standard charge rate and choose a soft-start programme for very cold batteries which also enables the charging and maintenance of small batteries. This model has a de-sulphating mode enabling deeply discharged batteries to be charged. Fully automatic float mode ensures that the battery is kept fully charged and ready to use, for extended periods of time. Automatic voltage detection determines if the charger is connected to a 6V or 12V battery. Reverse polarity protection and automatic shut-off are included as standard.

3. SPECIFICATIONS

Model No: **SC110S**
 Input: 230V 50Hz 1.8A
 Output (Amps): 2/6/10A
 Output (Volts): 6/12V
 Battery Range: 5-120Ah
 Cable and Clamp Length: 1.8m
 Weight: 1.12kg



Fig.1

4. PREPARATION




- ❑ **WARNING! RISK OF CONTACT WITH BATTERY ACID. BATTERY ACID IS A HIGHLY CORROSIVE SULPHURIC ACID.**
- 4.1. Remove all cord wraps and uncoil the cables prior to using the battery charger.
- 4.2. If it is necessary to remove the battery from the vehicle to charge it, always remove the grounded terminal first. Make sure all of the accessories in the vehicle are off to prevent arcing.
- 4.3. Clean the battery terminals before charging the battery. During cleaning, keep airborne corrosion from coming into contact with your eyes, nose and mouth. Use baking soda and water to neutralise the battery acid and help eliminate airborne corrosion. **DO NOT** touch your eyes, nose or mouth.
- 4.4. Add distilled water to each cell until the battery acid reaches the level specified by the battery manufacturer. **DO NOT** overfill. For a battery without removable cell caps, such as valve regulated lead-acid batteries (VRLA), carefully follow the manufacturer's recharging instructions.
- 4.5. Read, understand and follow all instructions for the charger, battery, vehicle and any equipment used near the battery and charger. Study all of the battery manufacturer's specific precautions whilst charging and their recommended rates of charge.
- 4.6. Determine the voltage of the battery by referring to the vehicle's manual. This charger is equipped with Auto Voltage Detection of 6 or 12 volts.
- 4.7. Make sure that the charger cable clips make tight connections.
- 4.8. **Charger Location.**
- ❑ **WARNING! RISK OF EXPLOSION AND CONTACT WITH BATTERY ACID.**
- 4.8.1. Locate the charger as far away from the battery as the DC cables permit.
- 4.8.2. Never place the charger directly above the battery being charged; gases from the battery will corrode and damage the charger.
- 4.8.3. **DO NOT** set the battery on top of the charger.
- 4.8.4. Never allow battery acid to drip onto the charger when reading the electrolyte specific gravity or filling the battery.
- 4.9. **Follow these steps when the battery is installed in a vehicle.**
- ❑ **WARNING! A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. REDUCE THE RISK OF A SPARK NEAR THE BATTERY:**
- 4.9.1. Position the mains and DC cables to reduce the risk of damage by the bonnet, door and moving or hot engine parts.
NOTE: If it is necessary to close the bonnet during the charging process, ensure that the bonnet does not touch the metal part of the battery clips or cut the insulation of the cables.
- 4.9.2. Stay clear of fan blades, belts, pulleys and other parts of the engine that can cause injury.
- 4.9.3. Check the polarity of the battery posts. The POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.
- 4.9.4. Determine which post of the battery is earthed (connected) to the chassis.
- 4.9.5. For a negative-earthed vehicle, connect the POSITIVE (RED) clip from the battery charger to the POSITIVE (POS, P, +) non-earthed post of the battery. Connect the NEGATIVE (BLACK) clip to the vehicle chassis or engine block away from the battery. **DO NOT** connect the clip to the carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
- 4.9.6. For a positive-earthed vehicle, connect the NEGATIVE (BLACK) clip from the battery charger to the NEGATIVE (NEG, N, -) non-earthed post of the battery. Connect the POSITIVE (RED) clip to the vehicle chassis or engine block away from the battery. **DO NOT** connect the clip to the carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
- 4.9.7. Connect charger mains cable to mains supply.
- 4.9.8. When disconnecting the charger, disconnect from the mains supply, remove the clip from the vehicle chassis and then remove the clip from the battery terminal.
- 4.10. **Follow these steps when the battery is removed from the vehicle.**
- ❑ **WARNING! A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. REDUCE THE RISK OF A SPARK NEAR THE BATTERY:**
- 4.10.1. Check the polarity of the battery posts. The POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.
- 4.10.2. Attach at least a 24-inch (61 cm) long 6-gauge (AWG) insulated battery cable to the NEGATIVE (NEG, N, -) battery post.
- 4.10.3. Connect the POSITIVE (RED) charger clip to the POSITIVE (POS, P, +) post of the battery.
- 4.10.4. Position yourself and the free end of the cable previously attached to the NEGATIVE (NEG, N, -) battery post as far away from the battery as possible, then connect the NEGATIVE (BLACK) charger clip to the free end of the cable.
- 4.10.5. **DO NOT** face the battery when making the final connection.
- 4.10.6. Connect charger mains cable to a mains supply outlet.
- 4.10.7. When disconnecting the charger, always do so in the reverse order of the connecting procedure and break the first connection while as far away from the battery as practical.
- 4.10.8. A marine (boat) battery must be removed and charged on shore. To charge it onboard requires equipment specially designed for marine use.

5. CONTROL PANEL

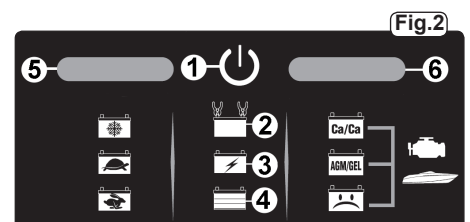
NOTE: See the Operation section for a complete description of the charger modes.

5.1. Charge Rate Button.

- 5.1.1. Use this button to set the maximum charge rate. Press the button until the desired charge rate is selected.

-  – Charges and maintains small batteries. Maintains large batteries.
-  – Charges small batteries, such as those commonly used in garden tractors, snowmobiles and motorcycles. **NOT** for charging large batteries.
-  – Charges automotive, marine and light truck batteries.


NOTE: Once the charger has started charging the battery; if the Charge Rate button is pressed once, the output current is shut off. If the Charge Rate button is pressed again, the current will go back on at the same setting it was when it was turned off. For example: The charger is charging a battery at the fast charge rate setting. If the Charge Rate button is pressed, the output is turned off. If the Charge Rate button is pressed again, the output will turn back on at the fast charge rate setting.





1. Power indicator
2. Connected Symbol
3. Charging symbol
4. Battery full symbol
5. Charge rate button
6. Battery type/mode button

5.2. Battery Type/Mode Button.

5.2.1. Set the type of battery to be charged, or Desulphation Mode:

 (Calcium) – Calcium batteries are acid batteries impregnated with calcium.

 (Absorbed Glass Mat/Gel) – AGM batteries have electrolyte absorbed in separators consisting of a sponge-like mass of matted glass fibre. Gel batteries contain gelled electrolytes. These batteries are sealed with valves and should not be opened.

 (Desulphation Mode) – A special mode of operation designed for sulphated batteries.

NOTE: When charging a battery that is not marked, check the manual of the vehicle etc. that the battery is installed in, for the correct battery type. Make sure the battery complies with the safety instructions in Section 1.

6. OPERATION

Battery Information: to be used with 6 and 12V batteries, with rated capacities of 5Ah to 120Ah

6.1. Charging.

6.1.1. Ensure that all of the charger components are in place and in good working condition, for example, the plastic boots on the battery clips.



6.1.2. Connect the battery, following the precautions listed in sections 1 and 4.

6.1.3. Connect the mains power following the precautions listed in sections 1 and 4.

6.1.4. Select the appropriate settings for the battery.

IMPORTANT: This charger does not have an ON/OFF switch. As soon as the charger is connected to the mains power supply, the charger will start working if connected correctly to a battery. The charger will not supply current to the battery clips until a battery is properly connected. The clips will not spark if touched together.


6.2. Battery Connection Indicator.

6.2.1. If the charger does not detect a properly connected battery, the CONNECTED LED  will not light. Charging will not begin if the CONNECTED LED  is not on.



6.3. Automatic Charging Mode.

6.3.1. When a charge rate is selected, the charger is set to perform an automatic charge. When an automatic charge is performed, the charger switches to the maintain mode automatically after the battery is charged.


6.4. Aborted Charge.

6.4.1. If charging cannot be completed normally, charging will abort. When charging aborts, the charger's output is shut off and the CHARGING LED  will flash. In this state, the charger ignores all buttons. To reset after an aborted charge, unplug the charger from the mains outlet, wait a few moments and plug it back in.


6.5. Desulphation Mode.

IMPORTANT: The battery must be removed from the vehicle when using this mode, or damage to the electrical system may result. If the battery is left discharged for an extended period of time, it could become sulphated and not accept normal charge. If  is selected, the charger will switch to a special mode of operation designed for sulphated batteries. If successful, the charger will fully desulphate and charge the battery, then the green LED will illuminate. If desulphation fails, the charger will abort and the CHARGING LED  will flash.

6.6. Completion Of Charge.

Charge completion is indicated by the CHARGED LED . When lit, the charger has stopped charging and switched to the Maintain Mode of operation.

6.7. Maintain Mode.

When the CHARGED LED  is lit, the charger has started Maintain Mode. In this mode, the charger keeps the battery fully charged by delivering a small current when necessary. The voltage is maintained at a level determined by the battery type selected.

6.8. Maintaining a Battery (2A Charge Rate).

This charger has a maintenance setting that maintains both 6 and 12 volt batteries, keeping them at full charge. On this setting, it can charge small batteries and maintain both small and large batteries. **We do not recommend charging a large battery on the maintenance setting.**

NOTE: The maintain mode technology utilised in this charger allows you to safely charge and maintain a healthy battery for extended periods of time. However, problems with the battery, electrical problems in the vehicle, improper connections or other unanticipated conditions could cause excessive current draws. As such, occasionally monitoring of the battery and the charging process is recommended.

6.9. Power-Up Idle Time Limit.

If no button is pressed within 10 minutes after the battery charger is first powered up, the charger will automatically switch from tester to charger if a battery is connected. In that case, the charger will be set to the 2A rate and AGM/GEL battery type.

6.10. Fan.

The charger is designed to control its cooling fan for efficient operation. It is normal for the fan to start and stop when maintaining a fully charged battery. Keep the area near the charger free of obstructions to allow the fan to operate efficiently.

7. MAINTENANCE

7.1. After use and before performing any maintenance, unplug and disconnect the battery charger.

7.2. Use a dry cloth to wipe all battery corrosion and other dirt or oil from the battery clips, cords and the charger's case.

7.3. Ensure that all of the charger components are in place and in good working condition, for example, the plastic boots on the battery clips.





7.4. Servicing does not require opening the unit, as there are no serviceable parts.

7.5. All other servicing should be performed by qualified service personnel.

7.6. Store the charger unplugged, and in an upright position.

7.7. If the charger is moved or transported to another location, take care to prevent damage to the cords, clips and charger, failure to do so could result in personal injury or property damage.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
CONNECTED LED is not on. 	The battery is not connected correctly. Battery voltage is at zero volts.	Check for correct connection to the battery. Turn everything off in the vehicle and try to connect again.
CHARGING LED is flashing. 	Charger is in abort mode. Battery is sulphated. Battery is defective.	Unplug the charger from the mains supply and plug it back in. Use Desulphation Mode () for 8 hours. Have the battery checked.
FULL CHARGE LED is on, but battery is not fully charged. 	Surface charge voltage is high. Battery voltage is very low and the charger detects it as 6V, not 12V.	Replace the battery. Unplug the charger from the mains supply and plug it back in.
All LEDs light in an erratic manner.	A button may have been pressed whilst the charger was being plugged in.	Unplug the charger from the mains supply and plug it back in, without touching the control board.



Environmental Protection.

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycle centre and disposed of in a manner which is compatible with the environment.



WEEE Regulations.

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment. When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this product.

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



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